

**Stage 1-2 Archaeological Assessment of
the Gooderham & Worts Windmill Foundation
Gooderham & Worts Heritage Precinct
Toronto, Ontario**

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STAGE 1-2 ARCHAEOLOGICAL ASSESSMENT OF THE GOODERHAM & WORTS WINDMILL FOUNDATION, GOODERHAM & WORTS HERITAGE PRECINCT, TORONTO, ONTARIO

1.0 INTRODUCTION

The firm of Archaeological Services Inc. (ASI) was retained by ERA Architect Inc. to conduct a Stage 1-2 Archaeological Assessment of the Gooderham & Worts windmill foundation, which was undertaken in conjunction with the replacement of paving in the area thought to contain this heritage feature. The study area encompassed approximately 100 square metres of Distillery Lane, located west of Trinity Street, and south of Mill Street, within the Gooderham & Worts Heritage Precinct in the City of Toronto (Figure 1).

Stage 2 field work was conducted under the project direction of Dr. Ron Williamson, and the joint field direction of Williamson and Dr. Frank Dieterman on March 24 and 25, 2003. Fieldwork was conducted in accordance with the Ontario Heritage Act (1990) under an archaeological consulting license (2002-030) issued to Dr. Dieterman of Archaeological Services Inc.

Permission to access the study area and perform the Stage 2 archaeological assessment was arranged by ERA Architect Inc.

Although not exposed at the time of project initiation, the windmill foundation's hypothetical location had been well-documented. This report provides details about the study process and documents the archaeological resource found in the study area.

2.0 STAGE 1 BACKGROUND RESEARCH

2.1 Previous Archaeological Research

In order that an inventory of archaeological resources could be compiled for the study area (Table I), three sources of information were consulted: the site record forms for registered sites housed at the Ministry of Culture; published and unpublished documentary sources; and the files of Archaeological Services Inc.

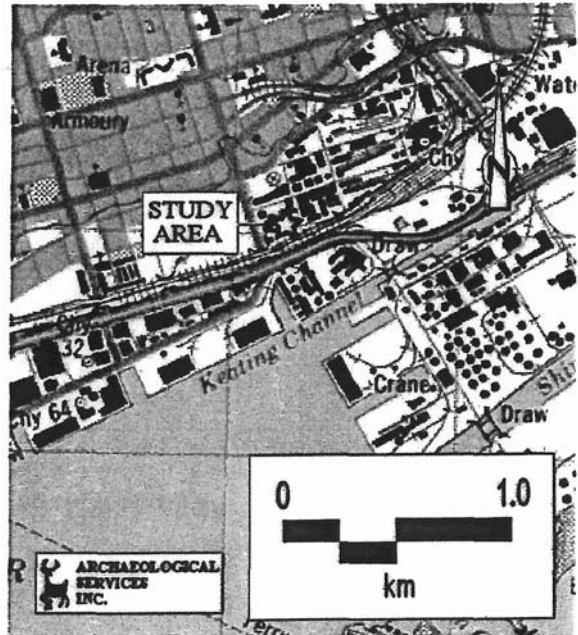


Figure 1: Location of Study Area on NTS Toronto Sheet 30 M/11 1985.

In Ontario, information concerning archaeological sites is stored in the Ontario Archaeological Sites Database (OASD), a database maintained by the **Ministry** of Culture. This database contains information on archaeological sites registered within the Borden system. The Borden system was first proposed by Dr. Charles E. Borden, and is based on a block of latitude and longitude. A Borden block is approximately 13 kilometres east-west **by 18.5 kilometres** north-south. Sites within each block **are** numbered sequentially as they are found.

The study area under review is located in Borden Block **AjGu**. While no archaeological sites have been registered directly within the study area boundaries, five sites have been documented within a two **kilometre** radius. Details regarding these sites are summarized in Table 1 below. The majority of registered sites are historic Euro-Canadian.

Table 1: Registered Sites Within 2 Km of Study Area			
Borden No.	Site Name	Cultural Affiliation	Site Type
AjGu-16	Thornton Blackburn	Multi-component: Historic Afro-Canadian Precontact Aboriginal	Residence Campsite
AjGu-17	St. James Cathedral	Historic Euro-Canadian	Cemetery
AjGu-19	Mackenzie House	Historic Euro-Canadian	Residence
AjGu-28	Elgin-Winter Garden Theatre	Historic Em-Canadian	Public Building
AjGu-41	Parliament	Historic Euro-Canadian	Public Building

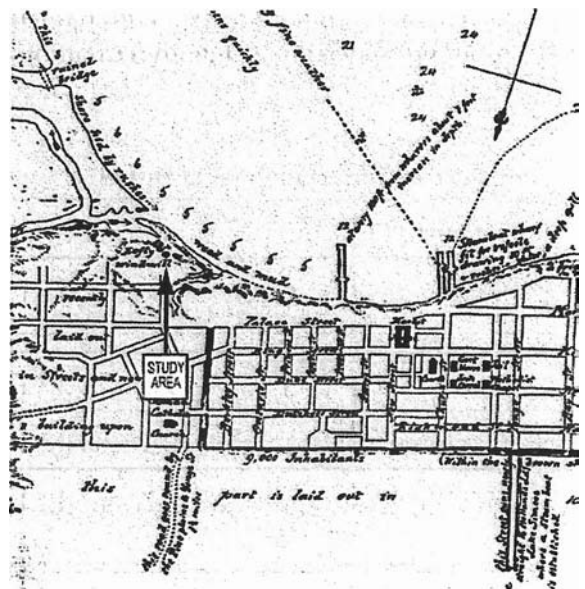
2.2 Summary of Historical Land Use

The windmill is identified in several planning documents as an important archaeological resource of scientific and interpretive value due to its long association with early Toronto history and harbour development (**ASI et al 2000:55**; Otto 1994:13). In order to assess the potential for recovering physical remains of the windmill, previous historical research was reviewed. The following *summary* is based on that review.

During the ~~first~~ half of the nineteenth century, the wind-powered grist mill of Gooderham & Worts was a distinctive landmark on Toronto's **waterfront**. James Worts emigrated **from** England in 1831 and began construction of the mill shortly thereafter on land he purchased from the provincial government. Worts' brother-in-law and business partner William Gooderham emigrated in 1832. The land they purchased was severed **from** "The Park," a reserve that extended between Parliament Street and the Don River south of **Carleton** Street (Otto 1994:4). The mill was constructed west of Trinity Street and south of Mill Street on top of a steep bank

overlooking a broad beach on what was once the lakeshore (Otto 1994:8). A painting executed by Thomas Young in 1835 illustrated it as a circular tower approximately six stories high and topped by a four-armed sail (Otto 1994: Fig. 4). It is interesting to note that at least two other grist mills took their form as windmill towers, one near Fort Erie (Davies 1996:99), and one near Prescott (Mika et al 1987:30), however, nineteenth-century grist mills typically took a rectangular form in Ontario (Leung 1981).

One of the first maps to depict the windmill's footprint was produced by R Bonnycastle of the Royal Engineers, whose 1833 No. 1 *Plan of the Town and Harbour of York* illustrated a circular structure labelled "**Lofty Windmill**" (Figure 2). A more detailed plan of the building lots at Trinity and Mill streets drafted by William Hawkins in 1835 also illustrated the footprint of the circular grist mill structure (Otto 1994: Fig. 12). The mill soon became an important landmark used to establish the southern **boundary** of water lots extending into the Toronto harbour, known as the "Windmill Line." Until the 1880s, fill dumped into the harbour could not be placed south of this line.



By 1837,

William Gooderham and James Worts were distilling alcohol from surplus and low-grade grain and a building for that purpose was constructed on the west side of Trinity Street (ASI et al 2000:53). As the business prospered, and technologies changed, more buildings and wharves were added to the complex. By 1855, the sail had been removed from the grist mill tower and the mill completely **surrounded** by additional buildings, as shown on a **plan of** the proposed Grand **Trunk** Railway right-of-way by William **Kingsford** (Figure 3), and a sketch of the tower by William **Armstrong** (du Toit et al 1994: Fig. 26).

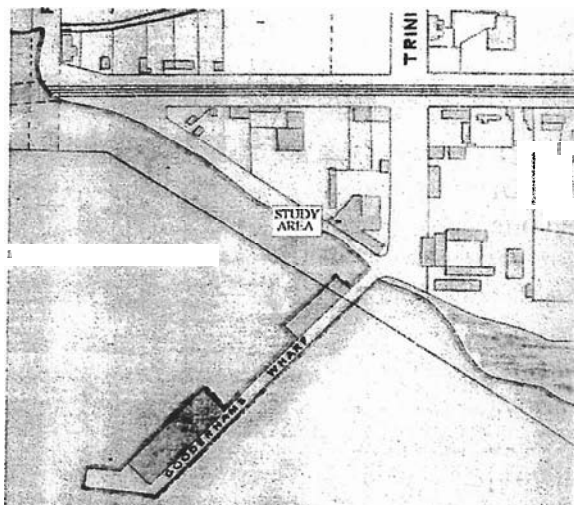


Figure 3: Detail of the 1855 plan of the proposed Grand **Trunk** Railway right-of-way by William **Kingsford**.

The configuration of these buildings changed again according to the 1858 **Boulton Atlas of the City of Toronto**, which also illustrated the new railway corridor that passed south of the distillery complex and severed the old windmill from the **waterfront** (Otto 1994: Fig. 16). Fill brought in for the railway created a gore of land south of Front and east of Parliament, where construction of the grey stone mill and distillery building began in 1859. This was followed by the construction of a malt house and offices along the west side of Trinity Street in 1864 (ASI *et al* 2000:54).

The construction of new buildings for the distillery operation effectively engulfed and ultimately obliterated the old mill tower from the waterfront landscape. Nevertheless, its presence continued to be marked on city maps and plans of the Gooderham property in the 1860s. For example, the location of "Gooderham's Windmill" remained a landmark on the 1862 **Browne Map of the City of Toronto**, although the label was applied to a rectangular building complex and not to a distinct circular structure.

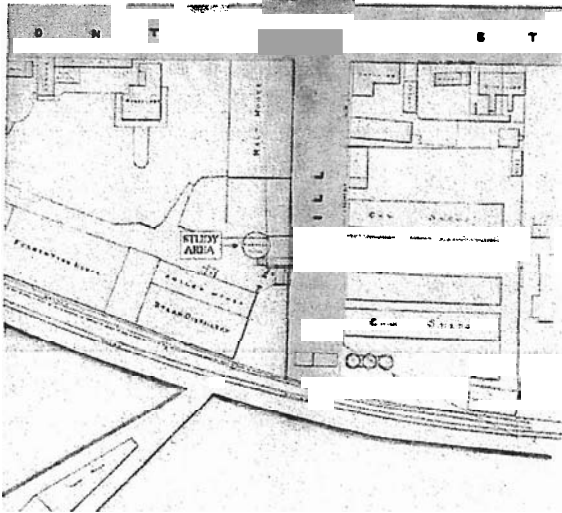


Figure 4: Detail of the *Plan of Property Belonging to Wm. Gooderham Esq. Toronto* by A. E. Williamson PLS

The *Plan of Property Belonging to Wm. Gooderham Esq. Toronto* by A. E. Williamson PLS, on the other hand, illustrated the circular "Windmill Tower," but it was overlaid partially by the walls of the offices adjoining the malt house (Figure 4). A **laneway**, known today as Distillery Lane, separated the south facade of this building and the east end of the stone distillery building. By 1884, the *Goad Insurance Plan of Toronto* illustrated the long building parallel to Trinity Street that contained the malting operation and offices, but the windmill footprint was not included (Otto 1994: Fig. 10).

It was in this area in 1986, when "Building 31" was renovated for the Hiram Walker offices, that Paul Allsopp, a former plant manager, indicated that circular portions of stone footings were observed underneath the building subfloor. It was proposed, therefore, that archaeological resources connected to the windmill location may be extant in the **laneway** adjacent to those offices (Otto 1994:13, Fig. 17).

2.3 Physiographic Setting and Assessment of Archaeological Potential

The study area is situated within the Iroquois Plain physiographic region of southern Ontario, which corresponds to the lowlands bordering Lake Ontario that were inundated with glacial lake Iroquois during the late Pleistocene period (Chapman and Putnam 1973:324). This plain cut into

previously deposited clay and till and is partly floored with sand deposits.

Late eighteenth and early nineteenth-century maps indicate that prior to human **modifications**, the position of the Lake Ontario shoreline in downtown Toronto varied **from** approximately 50 metres to 150 metres south of present-day Front Street (**ASI et al 2000:8**). It is believed that this shoreline stabilized in its pre-landfill position *circa* 3000 B.C.

Early maps also indicate that the study area was quite marshy, as it was situated close to the mouth of the Don River. Shoreline stabilization in the Gooderham & Worts Heritage Precinct was underway by 1842 and culminated in the 1850s with the construction of enlarged wharves and shoreline cribs that supported distillery buildings, warehouses, and the track of the Grand **Turk** Railway (**ASI et al 2000:54**).

The Ministry of **Culture Primer on Archaeology, Land Use Planning and Development in Ontario** (MCL 1997:12-13) stipulates that undisturbed lands within 300 metres of a **primary** water source, and undisturbed lands within 200 metres of a secondary water source, are considered to be of high archaeological potential. Given the degree of land disturbance that has taken place within the Gooderham & Worts Heritage Precinct, only one area was considered to have prehistoric archaeological potential, Warehouse Lane between rack houses G and J (Otto 1994: Fig. 17). This **area** was assessed by Archaeological Services **Inc.** (1996), during which time it was determined that the entire area had been disturbed.

30 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

31 Archaeological Monitoring

It was anticipated that the mechanical removal of the existing pavement in Distillery Lane might expose a portion of the windmill foundation. Therefore, this activity was monitored by Dr. Ron **Williamson**, Dr. Frank **Dieterman** and Ms. Eva **MacDonald** on March 24, 2003, within a 10 m x 10 m area immediately adjacent to Building 31 (Plate 1; Figure 5).

First, a backhoe was employed to take up the asphalt paving surface as a single layer. Next, the backhoe operator was instructed to remove the exposed granular, brick rubble and sand fill systematically in shallow increments. It soon became apparent that a number of utility trenches (both active and inactive) had been cut in this area, but also that the windmill foundation was intact in several places approximately 60 cm below the old asphalt surface (Plate 2). Once discovered, the foundation remnants were left *in situ* while the backhoe removed fill along the outer face in order to determine how deep the foundation might extend (Plate 3). This investigation had to be abandoned although the foundation continued to extend deeper into the fill because water began to seep into the excavation (Plate 4). No attempt was made to excavate the interior of the foundation.

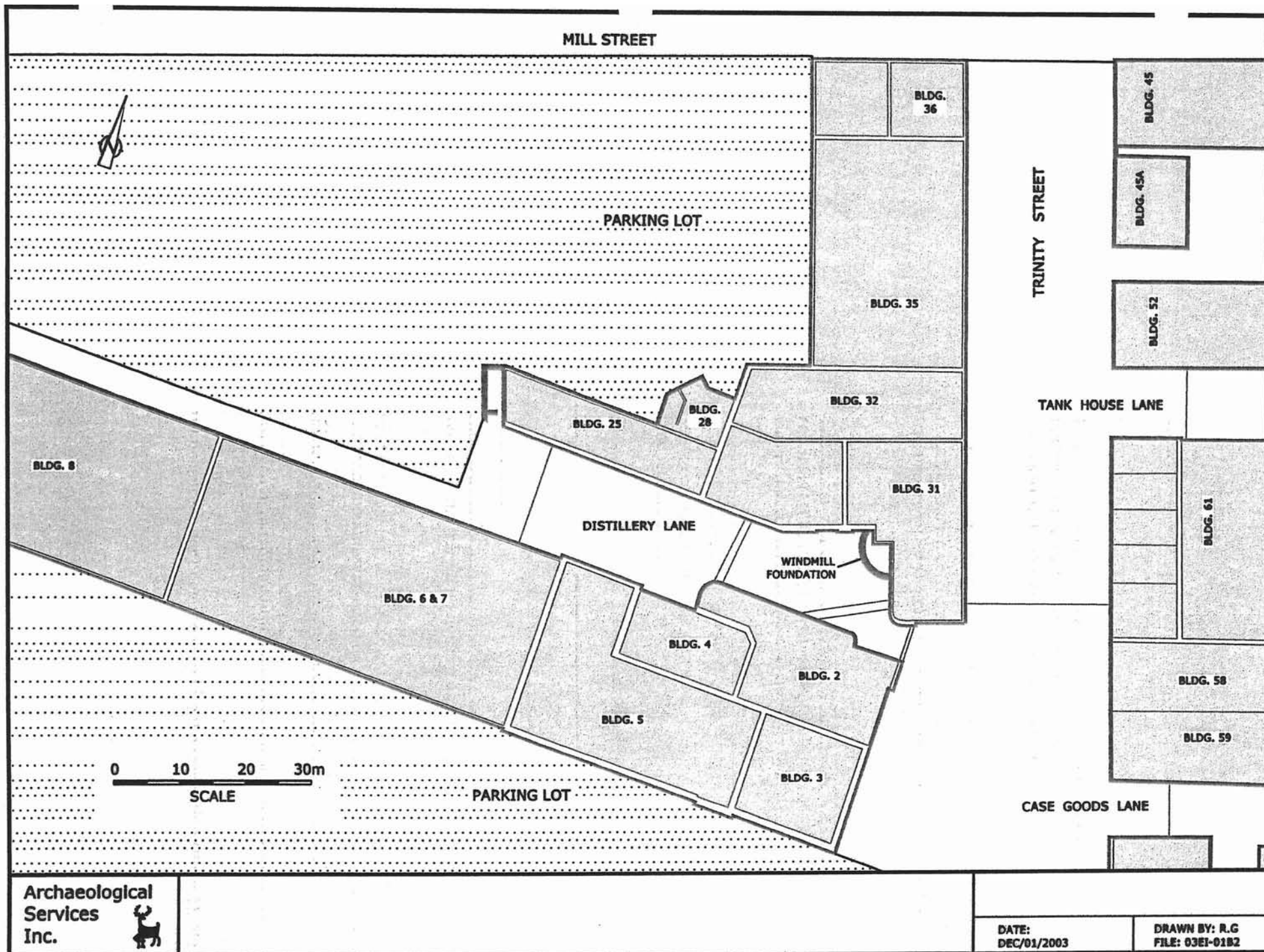


FIGURE 5: LOCATION OF WINDMILL FOUNDATION WITHIN DISTILLERY HISTORIC DISTRICT

Once they were exposed, the foundation **remnants** were defined **further** by shovel and trowel and mapped relative to Building 31 (Plate 5; Figure 6). Two sections also were profiled and a small sample of the limestone building material was retained. The foundation has been registered with the OASD as the Gooderham & Worts Windmill Site (AjGu-46).

After it had been mapped and photographed, the area of the windmill was covered with **geo-textile** fabric and backfilled with sand to protect the foundation underneath the new interlocking brick pavement installed in Distillery Lane. Today, the **dimensions** of the windmill foundation are mimicked through a pattern of contrasting brick that follows the outline documented **archaeologically**.

3.2 The Gooderham & Worts Windmill Foundation

Only two sections of the windmill foundation appear to be intact in Distillery Lane, while a third section is comprised of displaced stones found in close proximity to a portion of a red brick footing (Figure 6). One section abuts the foundation of Building 31 under which it disappears (Plate 6). It is 90 cm wide (2.95 feet) and composed of small, flattish, **rectanguloid** pieces of grey-green limestone that have been mortared into a red brick arch (Plate 4; Figure 7a).

The brick arch may have been constructed in the windmill foundation to allow grain to be channelled underground **from** the mill's basement to auxiliary buildings. Resting on top of this section is a 40 cm square block of cut stone that *may* have **formed** part of the base of the **windmill** tower, and which was incorporated into the Building 31 foundation. Apparently after the superstructure was dismantled (in the **1860s?**), this large block was left in place and the lower courses of foundation stones for Building 31 were placed against it and over top of it (Plate 6).

A second section extends approximately 3 metres in length and measures 90 cm wide (2.9 feet). This accords well with the description of the stone windmill built near **Prescott**, which had walls 3 feet thick at its base to support an 80 foot tall structure (**Mika et al 1987:30**). The flat pieces of limestone used in this section are relatively larger than those abutting Building 31 (Plate 7; Figure 7b). This section of foundation measures 107 cm thick but it extends deeper into the fill. Additional **fragments** of the limestone foundation were mapped as displaced stones sitting loose in the fill. The projected diameter of the windmill foundation is 10.2 metres (33.4 feet) based on the arc mapped between the two intact sections.

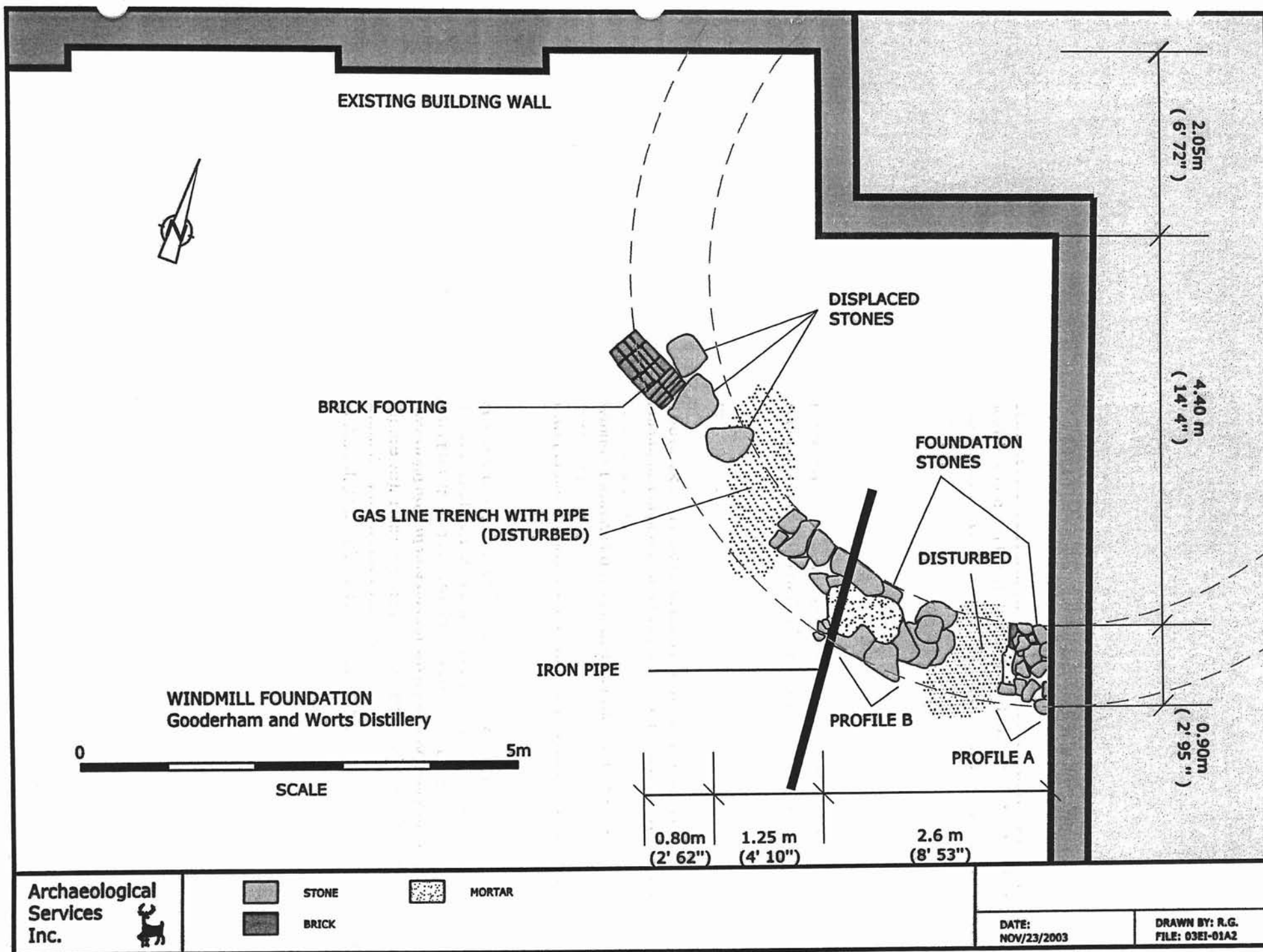
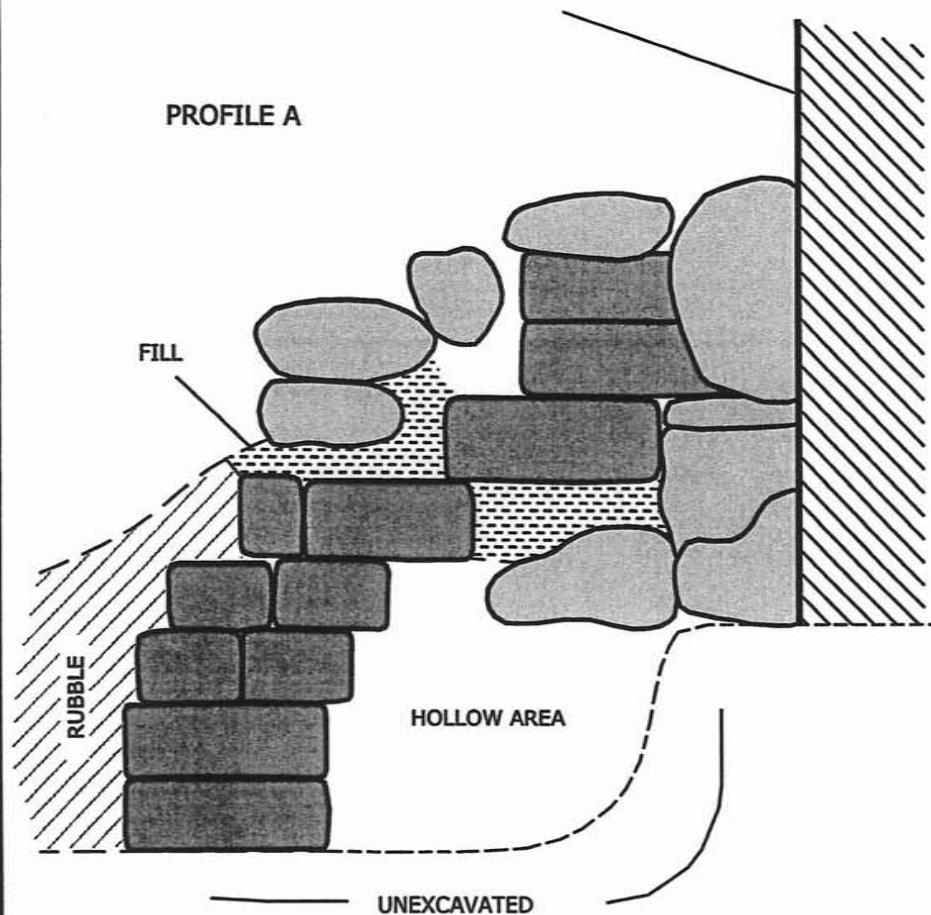


FIGURE 6: WINDMILL FOUNDATION PLAN

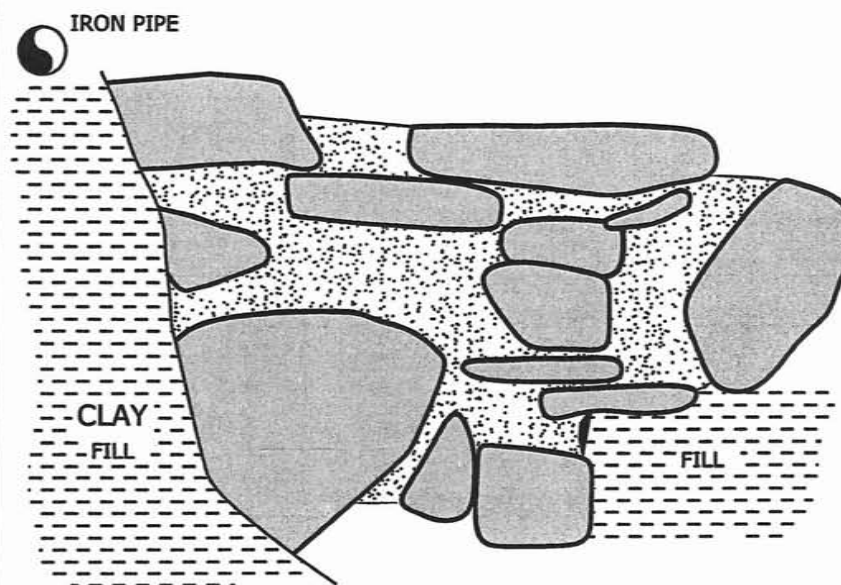
EXISTING BUILDING WALL

PROFILE A



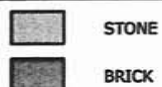
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PROFILE B



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FIGURE 7: WINDMILL FOUNDATION PROFILES

4.0 SUMMARY AND RECOMMENDATIONS

A Stage 2 archaeological assessment of the Gooderham & Worts windmill foundation was undertaken in conjunction with the replacement of paving in the area thought to contain this heritage feature. The mechanical removal of asphalt paving and the underlying disturbed soil fill was monitored on March 24 and ~~March~~ 25, 2003.

Two intact but discontinuous sections of the windmill foundation were mapped and photographed in Distillery Lane, and have been registered with the OASD as the Gooderham & Worts Windmill site (**AjGu-46**). The top of the foundation was documented 60 cm below the original asphalt paving. It is composed of limestone slabs that have been mortared together to form an annular foundation 90 cm wide. **One** section of the foundation also incorporates a red brick arch that would allow the passage of material **from** the inside of the structure to an exterior receptacle.

The windmill foundation was **left *in situ*** and covered with geo-textile fabric before the area of investigation was backfilled with sand to protect the foundation underneath the new interlocking brick pavement installed in Distillery Lane.

It is recommended, therefore:

1. The Gooderham & Worts Windmill Foundation be left ***in situ*** for perpetuity.

5.0 REFERENCES CITED

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6.0 PHOTOGRAPHY

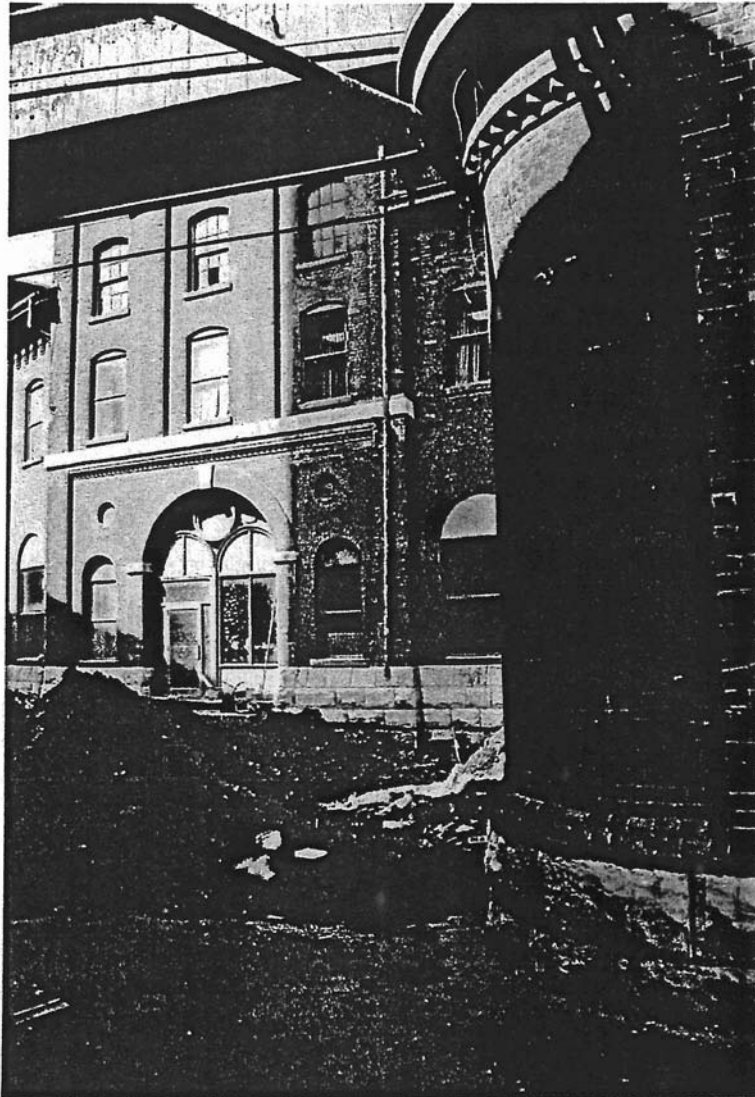


Plate 1: Looking northwest over area of excavation adjacent to Gooderham & Worts Bldg. 31.



Plate 2: Overview of excavation **looking** southeast.



Plate 3: **Looking** north over intact section of windmill foundation.



Plate 4: Close up of brick arch in windmill foundation, looking north.

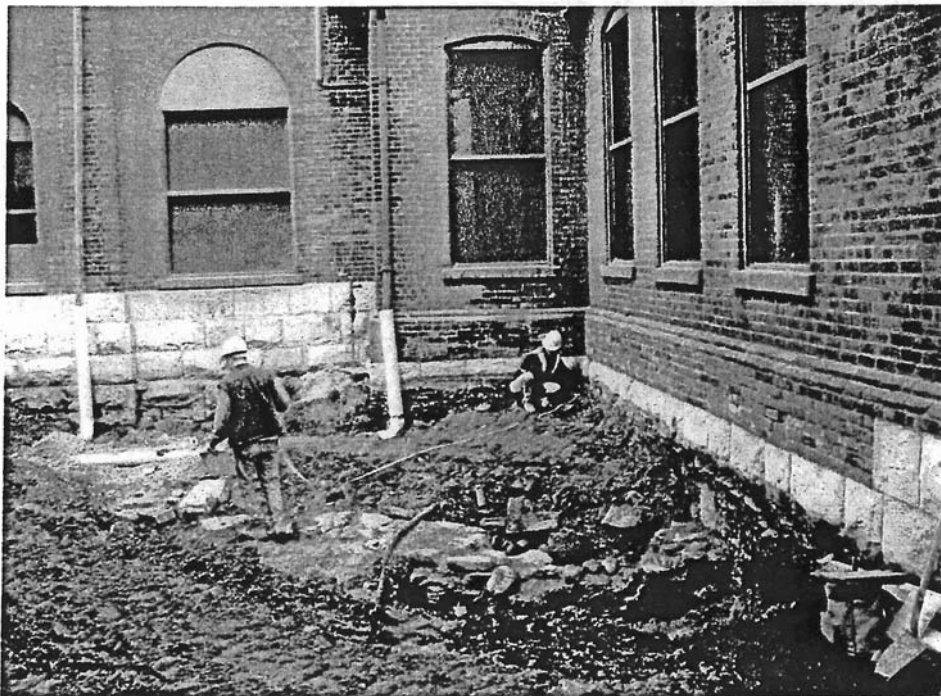


Plate 5: measuring the arc of the windmill foundation relative to Bldg. 31.



Plate 6: Close up of ~~intact~~ windmill foundation abutting foundation wall of Bldg. 31, looking east. Note large stone block in wall.



Plate 7: Close up of ~~intact~~ windmill foundation ~~cut~~ by utility ~~trench~~, looking north.